Abstract

A satellite constellation has a plurality of satellites. Each of the satellites has an RF ground link for communicating with a ground station and an optical link for communication with at least one of the plurality of satellites. Each of the satellites has a reconfigurable optical transmitter for sending and receiving data streams. Each reconfigurable optical transmitter has a first optical carrier associated therewith and a reconfigurable optical receiver. The plurality of satellites is arranged to have a first subset of satellites. The first subset of satellites is configured to communicate. The plurality of satellites is reconfigured to have a second subset of satellites having at least one different satellites than that of said first subset. The second subset supercedes the first subset. The second subset of satellites is configured to communicate. Various subset around the globe may form local area networks. The local area networks are preferably optically coupled to form a wide area network.